clearance and associated settlements which have changed the environment markedly since conventional paper maps were last drawn. The relationship between larval and adult mosquito distribution and observed malaria distribution will be analyzed and discussed.

Abstract of the 70th Annual Meeting of the AMCA (American Mosquito Control Association) and the 29th Annual Meeting of the Mid-Atlantic Mosquito Control Association. Savannah, GA, USA. 22-26 February 2004:42.

LABORATORY EVALUATION OF THE POTENCY OF BACTIMOS® BRIQUETS AGAINST *AEDES AEGYPTI* LARVAE (DIPTERA: CULICIDAE)

Fansiri T, Jones JW and Sithiprasasna R

Bacillus thuringiensis var israelensis (Bti) is a gram-positive spore-forming bacterium produces a proteinaceous crystal (δ-endotoxin) during sporulation. The crystal is cleaved into the toxic polypeptides by specific proteases in the mid-gut of ingesting mosquito larva. The toxic polypeptides bind to the gut epithelium and cause paralysis and death within a short time. This bio-potency study of Bactimos® Briquets (active ingredient: 7000 ITU *Aedes aegypti* (AA) International Toxic Units [ITU]/mg *Bacillus thuringiensis* var. *israelensis*) against late 3rd instar larvae of the arbovirus vector *Aedes aegypti* has been carried out according to WHO standard protocols. The six concentrations of Bti product were used in each test replicated 4 times with 25 mosquito larvae. Probit analysis was then used to determine LC_{50} which equated to a dosage of 0.54072 mg/l. The potency value of 515.42 ITU/mg (Briquets) was based on the ratio between the LC_{50} of International Reference Standard IPS-82 and LC_{50} of the Bti product was calculated. The result and potential role of this product will be discussed.

Abstract of the Joint International Tropical Medicine Meeting (JITMM). Bangkok, Thailand. 29 November-1 December 2004:237. (Poster)

LONGITUDINAL EVALUATION OF MALARIA EPIDEMIOLOGY IN AN ISOLATED KAREN VILLAGE IN WESTERN THAILAND: BIONOMICS OF ADULT ANOPHELINE MOSQUITOES

Zollner GE, Kankaew P, Jaichapor B, Ratanawong S, Chanaimongkol S, Sithiprasasna R and Coleman RE

Anopheline mosquitoes and their relation to malaria transmission were studied for 4.5 years (June 1999-January 2004) in the remote village of Kong Mong Tha in the hills of western Thailand. A total of 21,566 anophelines comprising >30 species was captured on human bait during >2000 collector nights. *An. minimus* and *An. maculatus* comprised approx. 50% and 25% of the catches and 70% (38/56) of mosquitoes positive by ELISA for circumsporozoite

protein (CSP). Biting behavior, parity rate, vectorial capacity and entomological inoculation rate was compared between seasons and location within the village. Results are discussed in the context of the malaria transmission dynamics in Kong Mong Tha.

53rd Annual Meeting of the American Society Tropical Medicine and Hygiene (ASTMH). Miami, Florida, USA. 7-11 November 2004.

Am J Trop Med Hyg. 2004; 70(4 suppl):113.

MORPHOLOGICAL VARIATIONS AMONG *ANOPHELES MINIMUS* A IN MAESOT DISTRICT, TAK PROVINCE, THAILAND

Jaichapor B, Jones JW and Sithiprasasna R

Anopheles minimus Theobald is one of the major vectors of malaria throughout the Oriental Region. Its complex is known to comprise at least 2 sibling species (A and C) in Thailand. This study investigated the specific status of *An. minimus* from Ban Khun Huay, Ban Pa Dae and Ban Tham Seau, Maesot District, Tak Provice, Thailand. Anopheline larvae were collected between October 2002 and September 2003 and allowed to emerge into adults under laboratory conditions. Adult *An. minimus* were then identified by morphological and molecular characterization. From morphological techniques, we observed that 1,715 of female *An. minimus* could be separated into 8 groups based on their wing scale patterns. Sampling from each group was then confirmed by molecular technique. Polymerase Chain Reaction Restriction Fragment Length Polymorphism (PCR-RFLP) assay developed by Van Bortel et a1 (1999) was used for the identification of *An. minimus* group. We conclude that all samples were in fact *An. minimus* A.

Abstract of the Joint International Tropical Medicine Meeting (JITMM). Bangkok, Thailand. 29 November-1 December 2004:229. (Poster)

NEW WAYS TO SCREEN CANDIDATE MOSQUITO REPELLENTS FOR HUMAN USE

Sithiprasasna R, Kankaew P, Jaichopor B and Jones JW

The insect/arthropod threat to a human can be both a nuisance and a source of disease. Personal protection by repellents is an effective and practical way to reduce biting activity of hemophagous arthropods especially when vaccines are not available. DEET, a synthetic broad spectrum repellent, has been widely used. Recent research has shown that DEET is not effective against some species of insect/arthropod vectors. Despite the broad spectrum effectiveness of DEET and the improvement in persistence and acceptability as a result of controlled-release formulation, the threat of insect-borne disease is still so grave as to demand continuing effort to develop innovative repellent/repellent formulations which may be more effective than DEET for some species of insect/arthropod vectors. We investigated the new candidate insect repellent: DM 159-2 by *in vitro* and *in vivo* methods against *An. dirus* A, *Ae. aegypti*, and *Ae. albopictus*